

SPORTS



Farewell to Sarajevo—Calgary ahoy!

ICE HOCKEY: SOVIET UNION WINS THROUGH

The USSR has sealed the ice-hockey Olympic title by defeating Czechoslovakia 2-0, their sixth such award to date.

We are happy to be coming home with the top Soviet awards and to have lived up to the expectations of many millions of our fans, said USSR team head coach, Viktor Tikhonov.

Earlier, Sweden beat Canada 2-0 to finish third.

Triumph of the Olympic ideals

(Continued from page 1)

are gaining in appeal. It is also borne out by the fact that 17 countries have shared the Olympic awards a record of sorts.

(3) What was the upshot of the 87th IOC session held in the run-up to the Sarajevo Games?

A: The Sarajevo session, and this is very important, reaffirmed the cohesion of the International Olympic Committee and its readiness to jointly pursue the chief goal: to make the Olympic Games, both summer and winter, a model of friendship and cooperation among nations and young people the world over and to ensure that the Games further assert and spread the noble spirit of Olympism.

At the latest Sarajevo session, another four members were added to our Olympic family: the Olympic committees of Butea, Ruanda, Samoa, and the Solomon Islands were unanimously voted in bringing IOC membership up to 153 nations.

Also important was the decision to extend the duration of the Winter Olympics to 16 days, a rule which is to go into effect already at Calgary.

In conclusion the IOC president spoke highly of the Soviet Union's contribution to the advancement of the International Olympic movement, and, specifically, to the implementation of the "Olympic solidarity" programme.

PODIUM

Cross-country skiing, Women's 20 km

1. Marja-Liisa Lämminmäki (Finland) — 1 hr 01 min 45.0 sec
2. Raisa Smolagina (USSR) — 1.02.20.7
3. Anne Jahren (Norway) — 1.03.13.6

Speedskating, Men's 10,000 m

1. Igor Malkov (USSR) — 14 min 39.50 sec
2. Tomas Gustafson (Sweden) — 14.38.95
3. Rene Schollisch (GDR) — 14.40.81

99 m ski-jumping

1. Matti Nykanen (Finland) — 231.2 points (116.0 m; 111 m)
2. Jens Weisaflog (GDR) — 213.7 (107.0; 107.5)
3. Pavel Plot (Czechoslovakia) — 202.9 (103.5; 109.5)



Sharing the women's figure-skating singles award stand (left to right) are Rosalyn Summers of the USA, Katarina Witt of the GDR, and Kira Ivanova of the USSR. ● Igor Malkov of the USSR bound for an Olympic title.



(Left to right)—Yuri Kashkarov, Dmitry Vasilyev, Aigmanas Shalov and Sergei Bulygin won the 4x7.5 km biathlon relay for the USSR.

HER BIRTHDAY PRESENT

Kira Ivanova has pleased the many Soviet figure-skating fans by becoming the first Soviet female skater to win an Olympic award. 1984 European winner Katarina Witt of the GDR, took the title, and Ivanova finished behind runner-up and world champion Rosalyn Summers of the USA.

Ivanova, who trains under twice world champion Vladimir Kovalev, has given herself a

nice present for the 21st birthday due on February 22.

The USSR did fairly well in the Olympic figure skating, walking off with the biggest haul of the field, consisting of one gold, one silver and three bronze medals. Significantly, most of them were won by Olympic debutants — Yelena Valova and Oleg Vasilyev, Larisa Selernyova and Oleg Makarov and Marina Klimova and Sergei Ponomarenko.

Getting even

19-year-old speedskater Igor Malkov (USSR) is the first Soviet skater ever to have won the 10,000 Olympic title.

...Strutting past the finishing line, Igor straightened himself up, looked at the scoreboard, and said, with satisfaction, plus three. What do you mean?—he was asked when, having got his breath back, he stepped up to a group of Soviet coaches. He explained: In the 5,000-m event, I lost to the champion, Swede Tomas Gustafson, by a mere 0.02 sec and was furious. I then resolved I'd get even. He added smiling, and in the 10,000 m finished with a 0.05 sec edge on him — which means "plus three" in my favour.

The USSR speedskating side won six Sarajevo awards — two golds, three silvers and one bronze, compared to two (a silver and a bronze) of four years ago at Lake Placid.

Medals for a start

This season has proved to be the most successful in the history of Soviet bobsleigh, a sport which was introduced to the USSR four years ago, said national squad head coach Roldand Upatniks. Our Olympic debut brought bronze awards to Zintis Ekmanis, from Riga, and Vladimir Alexandrov, from Krasnoyarsk — and, what is more, our team was the youngest, he stressed.

Wolfgang Hoppe navigated a GDR four-man bobsled to victory, while their Soviet counterparts led by Janis Kipnis finished in sixth place. A crew led by Zintis Ekmanis placed 12th.

SENSATION IN ALPINE SKIING

The Soviet Alpine skiers proved no match for their counterparts at Sarajevo — they were literally not too steady on their feet. For example, in the slalom and giant slalom Vladimir Andreyev fell and then dropped out of the race, and he can draw little consolation from the fact that his fate was shared by quite a few aces.

We are also not exactly overjoyed by Nadezhda Andreyeva's 14th and 20th places in the slalom and giant slalom or Vladimir Makeyev's and Valery Tsyganov's 16th and 23rd positions respectively in the men's downhill (Soviet female skiers missed the event altogether).

On balance the Olympic competition was nothing short of a sensation. For, one thing, the Americans, who had been doing poorly in this year's world cup, took three of the six events, and the illustrious slalom ace, Brian Hees of Switzerland, was not worth her salt, but most importantly nearly all the winners — Americans Debora Armstrong and Bill Johnson, Michele Figini along with Max Julien of Switzerland, and budding Italian Paola Margot, for Paolotta as they affectionately call her — are among the "new wives" in Alpine skiing. — go the success of the brothers Phil and Steve Mahre of the USA in the men's slalom, proved to be the only ray of hope in an otherwise bleak outlook for the old timers.

A 'Golden bride

The "queen of the ski track" is the right way to describe Marja-Liisa Lämminmäki of Finland. The 26-year-old physiotherapist, a bride from the small town of Suonenjoki, took the 20 km marathon stride to win her third title.

The Sarajevo Olympic from Suomi gave husband pendous gift for her scheduled for March 1 bridegroom Matti Nykanen, also of the Finnish squad, landed two wins at Sarajevo.

Raisa Smolagina of the USSR went all out in the earlier second Olympic, crowned her overall performance.

The Soviet women contented themselves with silver medals — after the "golden" performance of previous years, and they were won by team captain Smolagina.

We've taken too long to bring in news of the USSR women's team Viktor Ivanov.

Ski-jumpers swap places

Well known Finnish ski jumper Matti Nykanen has a 90 m, adding to his earlier award in the 70 m jumper event in the 1982 world championships. Right from the line, his opponents have a 116 m, a 120 m, a 125 m, a 130 m, a 135 m, a 140 m, a 145 m, a 150 m, a 155 m, a 160 m, a 165 m, a 170 m, a 175 m, a 180 m, a 185 m, a 190 m, a 195 m, a 200 m, a 205 m, a 210 m, a 215 m, a 220 m, a 225 m, a 230 m, a 235 m, a 240 m, a 245 m, a 250 m, a 255 m, a 260 m, a 265 m, a 270 m, a 275 m, a 280 m, a 285 m, a 290 m, a 295 m, a 300 m, a 305 m, a 310 m, a 315 m, a 320 m, a 325 m, a 330 m, a 335 m, a 340 m, a 345 m, a 350 m, a 355 m, a 360 m, a 365 m, a 370 m, a 375 m, a 380 m, a 385 m, a 390 m, a 395 m, a 400 m, a 405 m, a 410 m, a 415 m, a 420 m, a 425 m, a 430 m, a 435 m, a 440 m, a 445 m, a 450 m, a 455 m, a 460 m, a 465 m, a 470 m, a 475 m, a 480 m, a 485 m, a 490 m, a 495 m, a 500 m, a 505 m, a 510 m, a 515 m, a 520 m, a 525 m, a 530 m, a 535 m, a 540 m, a 545 m, a 550 m, a 555 m, a 560 m, a 565 m, a 570 m, a 575 m, a 580 m, a 585 m, a 590 m, a 595 m, a 600 m, a 605 m, a 610 m, a 615 m, a 620 m, a 625 m, a 630 m, a 635 m, a 640 m, a 645 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Soviet letter to UN Secretary-General

A letter from the USSR Permanent Mission to the UN has been sent to the UN Secretary-General J. Perez de Cuellar. It reads in part as follows:

Trying in every way possible to lift the Middle East settlement issue out of the deadlock into which it has been thrust by the Camp David policy of separate deals, the Soviet Union has consistently stood for the convocation of an international conference on the Middle East which would open up a realistic way towards a comprehensive settlement of all the problems born out of the Middle East conflict. The USSR is convinced that such a conference would be instrumental in breaking the chain of dangerous crises and wars in the Middle East and in guaranteeing its peoples the peace they have long been awaiting.

The main goal at the present stage is to remove the artificial barriers preventing the convo-

cation of an international conference on the Middle East and to do everything possible so that all concerned, the USA included, give their principled agreement to the convocation of the conference. The United Nations and its Secretary-General can undoubtedly contribute effectively towards the achievement of general agreement on the need to work for a comprehensive solution of the Middle East problem through collective efforts. This would create favourable prerequisites for solving successfully the issues of organizing and convening the conference as such.

The Soviet Union, on its part, will cooperate constructively with all who are sincerely interested in a just and durable settlement and is prepared to do everything it can to facilitate the convocation in the shortest possible time of an international conference on the Middle East and its successful operation.

KONSTANTIN CHERNENKO:

WE ARE READY FOR DIALOGUE

(Continued from page 1)

We are ready for dialogue and to cooperate actively with those governments and organizations which want to work honestly and constructively in the name of peace.

However, Chernenko noted, the situation in the world, and the nuclear missile danger threatening this country from the United States and NATO forces is to keep our powder dry and to be always on guard to as not to allow the alignment of forces to be changed in favour of imperialism or our country to grow weaker.

Our concern with the security of our socialist Motherland will

be understood by any sober-minded person, said Chernenko. The pain from the losses suffered by every Soviet family during the last war lives on. This country gave twenty million lives to maintain its independence, to save civilization, and to counter the threat of enslavement by the fascists.

Having assured his audience that the Party's Central Committee and the Soviet Government are aware of their great responsibility before the people, Chernenko stressed, June 1941 will never be repeated. Any aggressor will meet with immediate retribution. Let everyone know this—both friends and enemies.

PROPOSAL OF THE NICARAGUAN GOVERNMENT

New York. The permanent representation of Nicaragua at the United Nations distributed there a statement by its government on the situation in Central America.

The Government of Nicaragua, the document says, proposes to conclude bilateral and multilateral agreements which would

guarantee peace and security for all countries in Central America, particularly now when stability in the region is being jeopardized by the threat of American aggression and direct invasion of Nicaragua. Delaying of such agreements can only testify to the unwillingness to ensure peace and security in Central America, the document stresses.



PENTAGON PLANS FOR HOKKAIDO

Tokyo. The United States intends to turn the island of Hokkaido close to the Soviet frontier into an aggressive military bridgehead, the Asahi Shimbun newspaper writes.

The newspaper reports that a few days ago the Pentagon officially asked the Japanese National Defence Agency to build on Hokkaido a new military base for the 25th US Infantry Division at present stationed on Hawaii.

It is intended to deploy a large number of tanks, howitzers, military vehicles, and other types of military hardware at the base. Pentagon strategists do not conceal the anti-Soviet purpose of the new base, namely to provide the Americans with an additional transshipment base to airlift, in the shortest time possible, American troops to the Soviet borders and to the Far Eastern straits so as to block them.

Politbureau weekly meeting

(Continued from page 1)

ening of mutual trust and development of fruitful cooperation between the two countries, was stressed. This cooperation is regarded as confirmation of the vitality of Lenin's principles of peaceful coexistence between states with different social systems.

The Politbureau listened to a report on the talks in Moscow

with the Italian Minister of Foreign Affairs Giulio Andreotti and approved the line expressed during these talks by the Soviet leaders towards the further development of mutually beneficial cooperation between the USSR and Italy in the interests of the peoples of the two countries, and to the benefit of strengthening peace and security in Europe and throughout the world.

Front-line states summit

Dar es Salaam. The heads of the African front-line states have confirmed their full support for the liberation struggle of the peoples of South Africa.

This confirmation is contained in a communique signed at the end of talks in Arusha between the Presidents of Tanzania, Angola, Mozambique, Botswana and Zambia, the Prime Minister of Zimbabwe, as well as O. T. S. of the African National Congress (ANC) of South Africa and S. Ntjoma of the South-West Africa People's Organization. The conference also discussed the situation in the south of Africa following the attempts of the imperialist powers and the South Africa to dominate the region.

The communique states that genuine independence for Namibia can only be achieved on the basis of UN Security Council Resolution 435. The heads of the front-line states have demanded its prompt implementation.

AMERICAN AMBASSADOR PUTS HIS FOOT IN IT AGAIN

Ottawa. Impassable interference into the internal affairs of Canada—it is in this way Montreal newspaper, "The Gazette", describes yet another unceremonious statement by the American ambassador to that country Paul Hiron Nelson.

In a recent interview, the ambassador alleged, among other things, that the National Energy Programme (NEP) adopted by the government and approved by a majority of the population is a disaster for Canada. What is more, the American "diplomat" declared that this mistake will be "corrected" by whoever can to office in the forthcoming elections.

The essence of NEP adopted in 1980 consists in the gradual nationalization of the Canadian oil and gas industry.

Situation in Sudan

Cairo. Reports from Khartoum say that the Sudanese President Jafer Mohammed Numei has reshuffled his government and changed the composition of its leadership of the ruling Sudanese Socialist Union (SSU) Party. The changes affect the following ministers: Internal Affairs, Foreign Affairs, Construction and Public Works, Health, and Education and National Information.

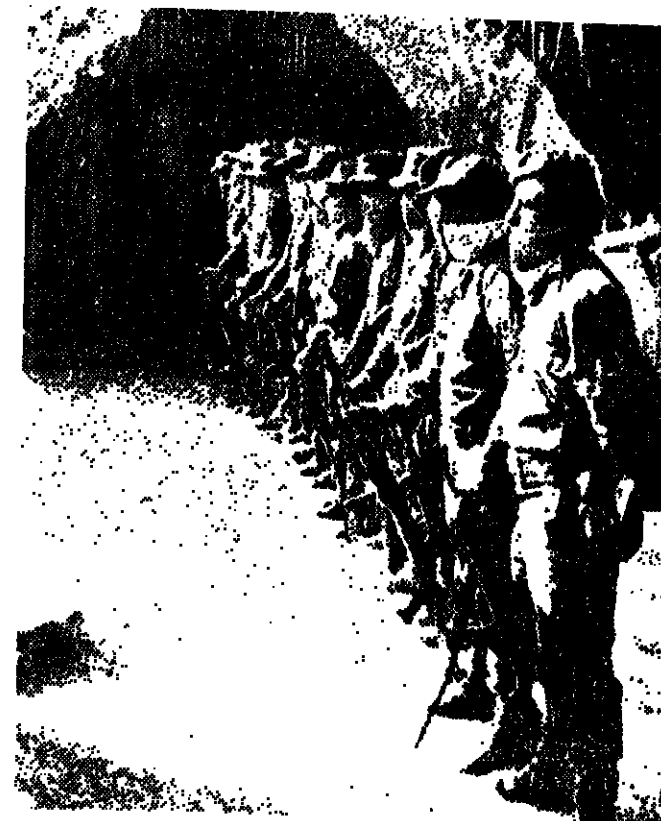
Observers believe that the changes in the echelons of power represent another attempt to represent another attempt to strengthen their positions and to sever public displeasure with their policy which leads to a constant deterioration in the living standards of the Sudanese people of late, this displeasure has become particularly acute. The country has been swept by a wave of strikes, student demonstrations by students at Khartoum University were charged, anti-government in character, declared a state of emergency throughout the country, and the demonstrators and so-called disciplinary tribunals set up.

P. NEDUMARAN: I ADMIRE THE PROGRESS ACHIEVED

Madras. The Soviet country is a land of peaceful construction, high social responsibility and optimism. This is the main impression of my visit to the USSR, said member of the legislative assembly of the state Tamil Nadu and writer P. Nedumaran, addressing a meeting of the club for readers of Soviet books.

I was especially struck with the progress achieved by Soviet Turkmenia which used to be one of the most backward national areas of tsarist Russia, noted P. Nedumaran. Being member of the family of the Soviet nations and relying on their support, Turkmenia has turned into a republic with a highly efficient agriculture and rapidly developing petrochemical, machine-building and electrical engineering industries.

Having visited the Soviet Union, said P. Nedumaran in conclusion, I profoundly felt that the Soviet people, who are twenty million lives in the fire of war, are sincerely interested in the preservation of peace and in making its great day-to-day contribution to the achievement of this noble aim.



Guatemalan patriots are stepping up their struggle against the terrorist regime in their country which is held in power solely thanks to military and economic support from Washington. In the photo: soldiers of the insurgent Armed Forces at a guerrilla training camp.

Photo by TASS

Social problems of Africa

Addis Ababa. Unemployment in Africa has exceeded eight per cent. More than 43 per cent of the continent's working people are employed part-time.

These figures are contained in a message which was sent by the head of the Ethiopian state and Chairman of the Organization for African Unity Mengistu Haile Mariam to the delegates attending the Organization's session on the problems of labour. In his message he analysed the socio-economic situation on the continent. He notes that the continuing exploitation of the African countries by the transnational corporations is aggravating still further their social problems, severe as they are already. The economic recession in the Western states, and the aggressive preparations they are making are leading to a sharp decrease in economic aid to the developing states, the message states.

Science and technology A NEW TECHNOLOGY FOR MANUFACTURING PARTS

The Aluminium Company of America (ALCOA) has designed a technology for the manufacture of precision aviation parts using rotation and reduction. This allows to bring down their weight, to lower the costs, and to enhance linear accuracy and surface finish.

The weight of the nose cone of a turbofan engine made under this new method is 30 per cent smaller than the one which is stamped. This is achieved by rotating the stamped workpiece and by pressing it by two massive rollers under computer control.

The line consists of an Autospin rotating and stamping press, a robot and a Hewlett-Packard 9826 computer which calculates the rate of rotation, feed and the position of the pressing rollers.

The robot takes a metal workpiece, and puts it in the rotating frame of the press. The workpiece rotates around its longitudinal axis like a conventional lathe. The computer controls the transverse and horizontal movement of the massive rollers which press the workpiece from two sides, giving it a new shape.

ENCYCLOPAEDIA OF LEGENDS

Over 500 legends and tales, a veritable treasure-trove of Mayan folklore dating back to pre-Columbian times, have been collected by Mexican specialists. The volume is sponsored by the Indian National Institute which specializes in seeking out folklore. It has established many contacts with Indian communities in Mexico which will eventually help enlarge the collection of Mayan lore.

ANCIENT PEOPLES AND THEIR PHYSICAL CULTURE

A large physical culture and health-building centre relating to the Graeco-Roman period in Egypt's history (the year 332 B.C.—395 A.D.), has been discovered by local archaeologists not far from the city of Kantara in the eastern part of the Nile delta. During excavations they found small swimming pools and sports halls whose walls are decorated with coloured tiles and mosaics, as well as apparatuses and appliances for developing strength and endurance. Mud-baths and a well-preserved bathhouse were also found. It is planned to transfer the bathhouse and

restore it on the territory of Ismailia's history museum where the remnants of similar bathhouses, found in 1969 on the territory of the Sinai Peninsula are displayed. Scientists believe that the centre was built for Greek commanders and warriors.

PEOPLE

The legendary Spanish torero Luis Miguel Dominguez was a great friend of Pablo Ruiz Picasso. They often met and talked for a long time. The artist occasionally attended Dominguez's corridas, and in return Luis Miguel often posed for him. Knowing this, the American film company, Warner Brothers decided to make a documentary on the life and work of this Spanish artist. They asked Dominguez to be the main announcer in the film for the royalties. Dominguez refused point blank to take part in this project. His arguments are simple: "I'm afraid that I will not be allowed to tell the whole truth about this remarkable man, artist and citizen".

SYNTHESIZED LANGUAGE

The next international congress of Esperanto experts will be held on August 3-10, 1985 in Augsburg. This decision was passed at the three-day conference of the West German Union of Esperantists, held in Kassel. Experts believe that up to 50,000 people in the Federal Republic of Germany understand this language, and in the whole world—about one million.

FROM the SOVIET PRESS

BEHIND THE MASK OF PEACE

To talk about peace while preparing for war reflects the essence of the present "peace" policy of the White House, writes PRAVDA's Washington correspondent G. Vasilyov.

When the US leaders talk of their "peaceful" aspirations they normally lack the facts to support them. As for Washington's interventionist desires, here their actions match their words. Everywhere, from the Middle East, where all the coast of Lebanon are American naval armadas ready at any time to resume shelling and bombardment of the country's towns and villages, to Central America, where the Pentagon and the CIA are conducting an undeclared war against Nicaragua and have increased military interference in the internal affairs of El Salvador and other nations, the American policy of gangsterism aimed against social change and people's desire for independence emerges in all its unseemly reality, the paper points out.

DANGEROUS COMPLICITY

Exposing the British propaganda attempts to disguise the deployment of American missiles in Britain as nothing more than a symbol of "Atlantic solidarity" which presents no serious threat for the Soviet Union, Ye. Nikitin writes in KRASNAYA ZVEZDA, as follows:

One doesn't need to be an expert at the International Institute for Strategic Studies to recognize that such allegations are not worth the paper on which they are written. As is well known, the 2,500-km range of these missiles allows them to hit targets on Soviet territory as far as the Arkhangelsk-Moscow-Odessa line. Each missile can carry a two hundred kilotonne nuclear warhead. In other words, the cruise missiles sited on British soil present a very real threat.

WASHINGTON'S 'ANTI-TERRORISM'

On his arrival at the White House, Reagan declared his nation's intention of doing away with "international terrorism", writes S. Kulik in SOTSIALISTICHESKAYA INDUSTRIYA.

Practice, however, shows that Washington's "anti-terrorist" action is nothing but a mask for its own subjugation and provocations against socialism, national liberation movements, all progressive forces and any state conducting a policy not in line with "American standards". To achieve such aims in those cases where the direct use of force which Washington would like to use is impossible, the White House has decided to resort to "undeclared" wars, secret murders, sabotage and other annual tactics long condemned in the practice of international relations, the paper points out.

THE MIDDLE EAST IN THE LIGHT OF CURRENT DEVELOPMENTS

Analysing the current situation in the Middle East, Konstantin Gavandov writes in IZVESTIA as follows:

Following the defeat suffered by American-Israeli "strategic" allies in Lebanon and the ultimate discrediting of the notorious "Reagan plan" in the eyes of the Arabs, it appears that suitable conditions have now emerged for further rallying the Arabs in joint action for a fair settlement of the Middle East problem. Apart from an early solution of the domestic crisis in Lebanon and the overcoming of differences with the PLO, this aim could be brought nearer by a normalization of relations between neighbouring Arab states and intensification of the pan-Arab programme for settlement of the Middle East crisis, the paper emphasizes.

'COCAINE BARONS' WREAK VENGEANCE

Bogota. Rodrigo Lara Bonilla, minister of Justice of the Latin American country of Colombia has been murdered in the capital, Bogota.

It is reported that when Bonilla emerged from his car outside his home, two unidentified persons opened fire on him from a motorcycle. In the ensuing cross-fire the Minister's bodyguards managed to kill one and arrest the other miscreant. The killers turned out to be hired assassins who were paid nearly 20 thou-

sand dollars to murder Bonilla. The 39-year-old Bonilla was known in Colombia as the initiator of a large-scale campaign against the illegal production of narcotics. Thanks to their efforts ten underground cocaine-producing factories have been uncovered and closed down. It is possible that the murder of the Colombian Minister of Justice is an act of vengeance by the "cocaine barons", as the big-time dealers of the Mafia are called in Colombia.

VIEWPOINT

Eduard RYABTSEV

With one's back to the Arabs

In words the M. Thatcher government favours peace in the Middle East, but in deeds it works hard to sabotage its coming. In his written reply to the UN Secretary-General at the United Nations, John Thompson claimed that preparatory to an international conference on the Middle East the gap must be narrowed and more common ground found between the various sides.

This diplomatic subterfuge covers London's avowed reluctance to facilitate an early and to the crisis in the area. In fact the British authorities directly back the foreign policy pursued by Washington which insists that the road to peace in the Middle East can only lie in the process of talks between various parties. As is known, even in 1978 the Arabs rejected out of hand separate talks with Israel on the basis of the Camp David accord.

Washington however, persists in its view that this is the only viable approach to the Middle East settlement and still claims that an international conference would only "slow down" the entire peace-reaching process. For the Reagan administration who refuse to pull their weight in closing the gap between the Arabs and Israel is very propitious as it "forces" Washington of responsibility to the international community for its attempts to force through the Arab-rejected "Reagan plan" at all costs. At their meeting in Foz in 1982 the Arabs adopted their own programme for a Middle East settlement, whose main goal is the creation of an independent Palestinian state under PLO leadership and Israeli withdrawal from all occupied Arab lands.

Refusing to accept the view-



acute differences between the Arabs and Israel.

But surely it is better to solve them at the negotiating table than on the battlefield. Arab and world public opinion is convinced that a fair and lasting peace can only be achieved by collective effort. But the Reagan administration thinks differently, primarily because it could lose the important role of chief mediator between Israel and the neighbouring Arab nations. As is evidenced in the case of Egypt and Lebanon, this is directly linked with plans for bolstering American military positions in the region.

By insisting on the Camp David line, Washington is out to win for itself a position giving it full control over the entire Arab world. In torpedoing the idea of an international conference on the Middle East, the Reagan administration patently hopes that the present Israeli opposition will come to power. The leaders of the Labour Party have repeatedly claimed they would support the "Reagan plan", which denies the Palestinians the right to an independent state of their own. This would help the Washington administration not only to boost its authority of the present master of the White House now seeking reelection — a view incidentally that is held by many in the states.

HOME NEWS

Round the Soviet Union

SOVIET RESEARCHERS ARE CONTINUING TO STUDY THE UTILIZATION OF TIDES AND OTHER SOURCES OF OCEAN ENERGY. IT WAS NOTED AT A VLADIVOSTOK CONFERENCE ON OCEAN POWER RESOURCES. Work has included studies of the chemical energy of rough seas.

MOSCOW'S LIBRARY FOR THE BLIND HAS MORE THAN 570,000 PUBLICATIONS IN BRAILLE AS WELL AS GROWING STOCKS OF BOOKS ON TAPE. The All-Union Society for the Blind tapes more than 300 works a year, in fiction, scientific and technical literature.

STUDIES UNDER UNESCO'S INTERNATIONAL PROGRAMME "MAN AND BIOSPHERE" HAVE BEGUN IN SEVEN NEWLY ESTABLISHED SOVIET NATURE PRESERVES. One of them is situated 150 km outside Moscow, another in the Volga delta, yet another in the Soviet Central Asian Republic of Uzbekistan, and the rest in other parts of the country. Like the existing seven biosphere preserves in the USSR, the newly established ones are in localities where environmental pollution from local sources is ruled out, that is why the data obtained there make it possible to establish the character and degree of the impact of global factors of human activity on nature.

AN AIR LINK HAS BEEN ESTABLISHED BETWEEN THE DRIFTING STATIONS NORTH POLE-25 AND NORTH POLE-26 AND THE MAINLAND. PLANES ARE BRINGING ALL THE NECESSARY SUPPLIES FOR THE POLAR EXPLORERS AT NP-26. A new relay of winterers are being taken to the station. As to the NP-25, it has already carried out its scientific programme and planes have begun evacuating its equipment. The latter station has no need of help since much of the ice has crumbled away during the years of drifting since May, 1961.



ARKHANGELSK NAVIGATION SCHOOL

The seaman's profession is one of the oldest in Russia. Ships flying the flag of the Soviet merchant marine have long been ploughing the seas and oceans: at present some 7,500 ships call at over 1,200 ports in 124 countries.

The seaman's trade is normally handed down from father to son, as a result entire dynasties of seafarers spring up, and this may be one of the reasons why the mastery and bravery of Soviet seamen are recognized throughout the world.

There are navigation schools in many Soviet ports, for instance in Leningrad, Riga, Kerch and Odessa, where skilled specialists are trained for the Soviet fleet. The oldest navigation school in the country—the V. Voronin Navigation School

in Arkhangelsk, a city in the north of the Soviet Union—celebrated its 200th anniversary in 1981. Every year hundreds of children from all over the USSR—the central areas of Russia, the Ukraine, Kazakhstan, Central Asia, the Urals and the Northern Caucasus—go to Arkhangelsk to learn how to become sailors.

At the cadets' disposal are engineering workshops, a training vessel, a gym, a first-class library, and a museum, where the prospective sailors learn about the school's history and traditions. Meetings are also arranged for them with Soviet fleet veterans, Polar explorers and old school graduates.

In the photo: Teacher Vladimir Yuryev takes a class in the port equipment laboratory.

GENERAL-PURPOSE ROBOTS

A major step towards the development of flexible industrial systems has been achieved at the special technological equipment factory in Khar'kov, the Ukraine, with the manufacture of its first batch of general-purpose industrial robots which can be used with stamps and presses, as well

as lathes, milling and boring machine tools and small processing centres.

Only minutes are required to reprogramme such robots to perform any operations. All of them are provided with electronic consoles with expanded functional capabilities. Each console

can control more than one robot at a time, an unusual feature for such units. Moreover, it controls production equipment as well, synchronizing its operation with the movement of manipulator arms, which supply workpieces and deliver ready parts to required locations.

FIFTH TRANSCONTINENTAL PIPELINE FINISHED

The Soviet Union has completed the laying of the fifth transcontinental pipeline since the beginning of the present five-year plan (1981-85). The 300 kilometre-long pipeline Urengi—Center-1 links Western Siberia's largest gas field with the city of Yel'tsin in the European part of the country.

The pipeline is built of pipe 1,420 millimetres in diameter. The operating pressure will be 75 atmospheres. More than 60 kilometres of the pipeline have already been tested for strength and air tightness.

The laying operation has been completed three months ahead of schedule. Work on the Urengi—Center-1 pipeline began in summer and construction workers developed an even higher pace of work than during the construction of the Siberia—Western Europe pipeline.

The construction of the fifth transcontinental pipeline Urengi—Center-2, the last among its pipelines to be built in the current five-year plan period (1981-85), is going full ahead. About 800 kilometres of pipes have already been welded together at the pipeline which is running parallel with Urengi—Center-1.

Four pipelines are also pumping Siberian gas to its users. The total length of these pipelines will be about 20,000 kilometres. They will handle the entire amount of gas produced in Western Siberia over the next years, and the output is to grow by 200,000 million cubic metres of gas.

New uses of mineral

A deposit in Yakutia has been producing vermiculite, a valuable raw material for the construction industry. Its specific heat insulation properties are especially important for the Eastern North. In Tomtom, a town on the Aldan River, beneficiaries of firing facilities have been built to process the mineral.

Vermiculite has other uses as well. It is used, for example, to make aircraft cabins smoke-proof, or as a filler for light types of concrete used to build apartment houses in the North.

Union's main tractor and agricultural machine-building factory, specializing in the production of hydrodrives and hydroautomatons. It sells its goods to 520 Soviet and to 48 foreign customers.

The original tractor started life by ploughing, sowing and mowing cereals. Later on, its activities were widened to include setting in motion the grader and the thrasher and the flour mill—but that was about it.

And today! In farming and agriculture in general it is difficult to name a technological operation which a modern tractor cannot perform. It digs trenches, drills wells, loads earth, evens out roads, stacks hay, and lifts weights. All this has been achieved by the use of hydraulics which gave the tractor hands as it were, the power strokes.

In addition to improving the range of technological operations performed by tractors and other agricultural machines hydraulics also helped increase their efficiency, reliability, service life, and made them easier to operate.

The further development and wider introduction of hydraulics will pave the way to improved mechanization and to the automation of agricultural processes.

IMPORTANT MILESTONE

A short while ago, the State Committee of the USSR for Invention and Discoveries filed in the documents to certify another invention, reports the SCIENCE IN THE USSR magazine. A collective farm in Batonia, one of the Baltic republics, announced that it had invented an installation for obtaining substitute milk for agricultural animals out of fish and animal raw materials. This invention has been marked with Inventor's Certificate No. 1,000,000.

This is an important milestone on the road of Soviet inventions, the magazine stresses, a road founded in 1919 by Lenin when he signed the Statute on Inventions. The Statute stipulated state ownership of

inventions as being the property of the whole nation, and that they should be made available to all organizations. The inventor's rights were defined and a basically new form of protection—the inventor's certificate, introduced. By choosing this form of protection, the inventor voluntarily gives the state exclusive rights over his invention. In return, the certificate ensures full protection of inventor's rights, including both material and moral benefits. The combination of personal and public interest, and the gearing of the inventor's work to the needs of society has meant that our inventions have been able to play direct part in solving a vital social task—the conversion of the USSR from an industrial backward country into a powerful industrial nation.

In the period between 1912 and 1917, i.e. in over 105 years only 88,078 inventions were patented, with foreigners being responsible for 82 per cent of these inventions, the magazine notes. Whereas, over the past two years alone, more than 126 thousand inventions have been entered in the USSR State Register.

MARSHLAND TO BE PROTECTED

NAUKA I ZHIZN writes about a new reserve Taimyr in Latvia, a Soviet Baltic republic. The reserve is rather unusual because it occupies a marshy area of 18,000 hectares which is 9.5 metres deep. As a habitat for many species of birds included in the Red Book of Latvia and the USSR.

The ecological system of marshes, typical for the Eastern Baltic area, will remain intact in the reserve, thus saving some species of birds living in the marshes from extinction and extermination. Another fact is also important and that is that the reserve will become a place for research which will help scientists understand better the role and importance of marshes as an efficient part of the whole ecological system of the Earth.

HOME NEWS

Places to visit

PETER THE GREAT'S HOUSE IN LENINGRAD

It was at the beginning of the 18th century that the Petrovskaya, Leningrad's first embankment, was built. However, today little remains of it apart from Peter the Great's wooden house, the oldest building in the city. The house, built from logs was completed in May, 1703 and two days later the tsar moved into it to a salvo of gunfire.

It is rather small: only 60 square metres in size consisting like other Russian log houses of two rooms divided by a passage. Linen hangs on the walls, and the door and window frames are decorated. Wide three-paned windows are cut through the walls which are painted to resemble bricks.

In 1975, the house was surrounded by an iron railing and a monument to Peter the Great was put up in front of it. In Soviet times the house has been restored, and in 1930 it was opened to the public.

In the photo: one of the rooms in Peter the Great's house.



Science and technology

MEDICINES OF TOMORROW

Research into the directed "transport" of curative preparations has taken off in a big way in our country, says I. Berezin, Corresponding Member of the USSR Academy of Sciences. Its aim is to direct curative preparations selectively and accurately to the last stronghold of an illness—the cell of a certain organ or tissue. Of course, everyone knows that medicine "addresses", for example, to the heart, with the blood flow to all the other organs.

So the medicine has to be administered in larger quantities than actually required.

Medicines can be delivered to their destination by liposomes, microbubbles whose shell is formed from natural substances.

The use of such microcapsules opens up new prospects, particularly in the treatment of cardiovascular, infectious, oncological and endocrine diseases and various hereditary anomalies in which the use of strongly effective means puts an extra burden on the organism. For the first time in this country they were used by Academician A. A. Chazov of the USSR Academy of Medical Sciences and his colleagues to eliminate the consequences of myocardial infarction. The tests were conducted at the All-Union Cardiological Research Centre of USSR Academy of Medical Sciences. At present, clinical tests on animals are being carried out.

other ten different preparations are under way.

This was the topic under discussion at the All-Union Medical Conference which was held in the Ukrainian capital, Kiev.

FIVE MONTHS

INSIDE BIOS-3

Two young researchers, Nikolai Bugreyev and Sergei Alexeyev recently spent five months in a hermetically sealed complex called BIOS-3, in which certain conditions of life aboard a space station were simulated. The experiment was carried out at the Krasnoyarsk Institute of Biophysics, the Siberian Branch of the USSR Academy of Sciences. Thus, Konstantin Tsiolkovsky's idea that long space flights aboard craft with a closed cycle of the rotation of substances in an ecological system incorporating human beings are possible has received additional confirmation.

Though the young researchers didn't take off from the earth and experienced no overload or zero gravitation as, for example, the crews of orbiting stations do, all other elements of their environment were similar to those in outer space. However, whereas present-day spacecraft use special filters and sophisticated regeneration systems to purify the air and water inside, in BIOS this was all done by plants which also provided food for the two researchers.

The "green" factory at BIOS included wheat and more than 10 different vegetables selected by the crew. Their garden oc-

cupied 60 square metres — enough to provide four to five people with oxygen.

Scientists believe that the BIOS system will be helpful both in outer space and on earth, whether in the Arctic or Antarctic, in the mountains or desert, underground or underwater.

GLASS METAL

An installation for producing glass metal, a material which possesses a number of unusual properties including high strength and hardness, has been designed by scientists from the A. A. Balkov Institute of Metallurgy at the USSR Academy of Sciences.

The novel material possesses unusual strength and is less liable to corrosion than the usual metal. Its electromagnetic properties also changed.

In the specialists' opinion, the metal glass material is in for a great future, since our age, despite the rapid development of chemistry of polymers, remains the age of metal, and the demand for metal goods is constantly growing.

KODAR, THE HIGHEST POINT EAST OF LAKE BAIKAL

The highest mountain in the area of the Baidar-Amur Railway turned out to be 70 metres higher than was previously considered. A recent survey of the Kodar Range established its actual height at 3,073 metres.

The Kodar Range east of Lake Baikal stretches from the Mongolian border to the Pacific

HIGH AWARDS FOR SEAMEN

Sixty-five crew members of the Soviet rescue tug "Vaguar", and "Bizon" have been awarded the medal of Friendship and for the Fulfilment of International Duty badges by the Vietnamese Government. They were also given the Freedom of the City of Ho Chi Minh.

The Soviet seamen received these high awards for towing a huge dock built by Soviet shipbuilders from the port of Khereson in the USSR to the port of Ho Chi Minh. During the journey which took six months, they successfully negotiated storms, cyclones and hurricane-strong gales.

Both small and oceangoing ships will be repaired at the dock which is intended for the Bason shipyards.

PLANETS NAMED

The Minor Planet Centre, Cambridge, Massachusetts, USA has informed the Institute of Theoretical Astronomy at the USSR Academy of Sciences of the naming of newly discovered celestial bodies.

The new minor planets discovered by N. Chernukha, senior researcher at the Crimean Astrophysical Observatory, will be named after: Academician Anatoly Alexandrov, the President of the USSR Academy of Sciences; the writers Alexander Grin, Vasily Shukshin, and Jack London; the astrophysicist Academician Viktor Sobolev, and the very imaginative Lithuanian artist and composer Mikalofus Churlonius.

ANCIENT CRAFTSMEN OF ARMENIA

Ancient stone monuments with elegant carving, and the remains of walls—proofs of the high-level skill of builders in old Armenia were discovered by archaeologists—not far from Garni church—the well-known monument of national architecture. These rare finds were the result of recent investigations conducted by the archaeologists and art critics of Yerevan. This subject is dealt within a major book brought out by the publishers of the republican Academy of Sciences, illustrated with colour reproductions and photographs. For the first time it gave a full picture of architecture in ancient Armenia.

VIEWPOINT

MANUFACTURE OF AGRICULTURAL MACHINERY IN THE USSR

Alexander YEZHEVSKY, USSR Minister of Tractor and Agricultural Machinery

In 1983 some three million tractors and more than 700 thousand combine harvesters could be seen harvesting in our fields. Agricultural machinery marked "Made in USSR" is widely known abroad. It is bought in dozens of countries.

At the present time, the manufacture of tractors and agricultural machinery in the Soviet Union is experiencing a rebirth: 147 factories are under reconstruction and 19 new factories are being built. Collective and state farms are receiving increasing number of new machines, while they have managed to update all their existing machinery. In practice this means that the amount of energy available for job has increased threefold since 1963. Today we are out to double this level over a considerably shorter period.

However, though boosting the power of agricultural machinery is important, it is not sufficient on its own to achieve total mechanization of the farming industry. For this revolutionary machine need to be designed featuring higher operating reliability. Tractors should have a lifetime of 8 to 10 thousand instead of 5 to 6 thousand hours as is the case today, and we need to achieve a 1.5- to twofold improvement in the failure-free operation of farm machinery.

There are plans to manufacture 800 new models of considerably improved machines for progressive farming processes. This means that we need to halt the development cycle. Such is the essence of the reconstruction that is taking place today in the Soviet agricultural machinery industry. We can't count on more workers or experts. What we are out to achieve is to shorten the development cycle twofold with the same number of people employed.

The agricultural machinery industry and the USSR State Committee for Science and Technology have co-sponsored a number of measures aimed at enhancing research and development. To this end, special importance is attached to computer aided design. By 1990, 20 per cent of all research and development in the industry will be done by computer, this will increase the performance of design work by 30 to 40 per cent.

However, the drawing board is only the beginning of the development cycle. The designers' efforts have to be embodied in a prototype which then has to be tested and further streamlined. Here in this particular industry it is not easy to achieve quick results. For instance, harvester can be tested fairly quickly, but one then has to wait for the next harvesting season to test the alterations.

This disadvantage can be overcome to a certain extent by supplementing field tests with simulation modelling. Robot engineers are especially successful in this, with work on their Don harvesters proceeding practically all the year round. In the near future we expect to double the number of such test systems.

However, the ultimate objective is full-scale production. In 1984 alone we plan to start manufacturing 123 new models of agricultural machinery.

FROM the SOVIET PRESS

DEVELOPING THE SEA SHELF

30 countries now produce oil and gas from the sea. The development of sea deposits is the subject of an article in IZVESTIA written by S. Yudin, chief of Glavmorneftegazprom at the Ministry of the Gas Industry of the USSR.

The study and development of sea deposits in this country, he writes, is carried out according to a purpose-oriented comprehensive programme involving 30 organizations and 22 ministries and departments.

Azerbaijan is a pioneer of oil production at sea both nationally and internationally. At the present time the Caspian Sea provides two-thirds of Azerbaijan oil and over 50 per cent of its gas. A whole flotilla of drilling rigs are operating in the open sea. One technical novelty is the "Shell" semisubmersible drilling unit — a giant structure with a 58 m rig, equipped with complex lifting mechanisms, precision instruments and electronics.

Another achievement is the construction of deep-water stationary platforms used for drilling clusters of wells.

Quite recently the final stage of a special plant for manufacturing deep-water offshore platforms was put into operation in the Baku suburb of Koradog. It will have a total of five docks.

Geophysical ships have also been built and equipped with highly advanced technology.

THE POSSIBILITIES OF HYDRAULICS

G. Bugreyev, director of the Gidrosila plant in Kirovograd, talks about possibilities and prospects for the use of hydraulics in agriculture in the SLSKAYA ZHIZN newspaper.

The Gidrosila plant in Kirovograd is the Soviet



The photos: ● Spring moods. ● That's my favourite for all seasons. ● Waiting for a mile.

